

**REMARKS**

Claim 16 is canceled without prejudice, claims 19 to 24 are added, and therefore claims 10 to 15 and 17 to 24 are pending in the present application.

In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicants thank the Examiner for acknowledging the priority claims and for accepting the drawings. Applicants also thank the Examiner for considering the Information Disclosure Statements of April 14, 2006 and December 11, 2009.

Claims 10 to 13 and 15 were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Pat. No. 6,548,914 (“Caruso”).

Claim 16 was rejected under 35 U.S.C. § 103(a) as unpatentable over Caruso, in view of Japan Pat. Pub. No. JP2001247001 (“Katsuji”).

While the rejections may not be agreed with, to facilitate matters, claim 10 has been rewritten to include the feature of claim 16, which has been canceled without prejudice. Therefore, claim 10, as presented, does not require a new search.

Since claim 10 has been rewritten to include the subject matter of now-canceled claim 16, the anticipation rejection is moot and claim 10, as presented, is discussed below in view of the obviousness rejection of claim 16.

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Also, as clearly indicated by the Supreme Court in *KSR*, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. See *KSR Int'l Co. v. Teleflex, Inc.*,

127 S. Ct. 1727 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, at 1396. Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

While the rejections may not be agreed with, to facilitate matters, claim 10 has been rewritten to include the feature of claim 16. Claim 10, as presented, is directed to a device for determining an instant a vehicle makes contact with an impact object and as amended provides for *a determining arrangement* for determining the instant of contact by approximating a signal derived from an acceleration signal using a *quadratic* function. The Office Action admits that Caruso does not disclose this feature. However, the Office Action refers to Katsuji (Abstract) as assertedly disclosing “the integration of the acceleration is approximated to a quadratic curve.” The Abstract of Katsuji states the following:

**PROBLEM TO BE SOLVED:** To quickly and more accurately decide whether a collision form of a vehicle is a head-on collision or not.

**SOLUTION:** *When the collision form of the vehicle is the head-on collision, normalization of a locus for time of a time integrated value of deceleration detected by a floor sensor mounted in the vicinity of a center console of a vehicle gives the normalized locus accurately approximated to a quadratic curve. When the collision form of the vehicle is a symmetric collision except the head-on collision, the locus normalized in the same way is remarkably deviated from the quadratic curve. By using the result, whether the collision form is the head-on collision or not is discriminated.* Because the time integrated value of deceleration required for the discrimination is required till an initial stage of the collision, the discrimination can be performed at the initial stage of the collision.

As such, Katsuji concerns two forms of collisions – head-on collisions and symmetric collisions. For these two forms of collisions, Katsuji indicates that “normalization of a locus for time of a time integrated value of deceleration” approximates a quadratic curve, but that the symmetric collision deviates from the quadratic curve.

Thus, Katsuji merely concerns using a quadratic curve as a measure to discriminate head-on collisions from symmetric collisions. However, Katsuji does not

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disclose (or even suggest) a determining arrangement for determining the instant of contact by using a quadratic function, as provided in the context of claim 10, as presented. Indeed, any reading of Katsuji makes plain that it does not disclose using the quadratic curve to determine the instant of contact, as in claim 10. Therefore, the combination of Caruso and Katsuji does not disclose all of the features as provided for in the context of claim 10.

Withdrawal of the anticipation and obviousness rejections of claim 10 is therefore respectfully requested.

Claims 12 and 13 were rejected under 35 U.S.C. § 103(a) as unpatentable over Caruso, in view of U.S. Pat. No. 5,559,697 (“Wang”).

Claim 14 was rejected under 35 U.S.C. § 103(a) as unpatentable over Caruso, in view of Wang, and in further view of U.S. Pat. No. 6,756,887 (“Evans”).

Claim 17 was rejected under 35 U.S.C. § 103(a) as unpatentable over Caruso, in view of Katsuji.

Claim 18 was rejected under 35 U.S.C. § 103(a) as unpatentable over Caruso, in view of Katsuji, and in further view of U.S. Pat. No. 3,945,459 (Oishi”).

Claims 11 to 15, 17, and 18 depend from claim 10, and they are therefore allowable for at least the same reasons as claim 10, as presented, since none of the Wang, Evans, Katsuji, and Oishi references do not cure the critical deficiencies of the combination of Caruso and Katsuji as to claim 10, as presented.

Withdrawal of the obviousness rejections of claims 11 to 15, 17, and 18 is therefore respectfully requested.

As further regards all of the obviousness rejections, any Official Notice is respectfully traversed to the extent that it is maintained and it is requested that the Examiner provide specific evidence to establish those assertions and/or contentions that may be supported by the Official Notices under 37 C.F.R. § 1.104(d)(2) or otherwise. In particular, it is respectfully requested that the Examiner provide an affidavit and/or that the Examiner provide published information concerning these assertions. This is because the § 103 rejections are apparently being based on assertions that draw on facts within the personal knowledge of the Examiner, since no support was provided for these otherwise conclusory and unsupported assertions. (See also MPEP § 2144.03).

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Claim 10 was provisionally rejected on non-statutory obviousness-type double patenting grounds over co-pending U.S. Pat. Application Ser. No. 10/512,756.

Since this is a provisional rejection, a Terminal Disclaimer or other related response need not be filed unless the claims in at least one of the present and/or cited applications actually issue or are in condition for allowance, and this is the sole remaining rejection in this application. Therefore, Applicants will respond further to this rejection when the rejection is no longer a provisional rejection.

New claims 19 to 24 do not add new matter and are fully supported by the specification as originally filed. Claims 19 to 24 depend from claim 10, and they are therefore allowable for at least the same reasons as claim 10.

Accordingly, all of claims 10 to 15 and 17 to 19 are allowable.

### CONCLUSION

It is therefore respectfully submitted that all of the presently pending claims are allowable. It is therefore respectfully requested that the rejections and objections be withdrawn, since all issues raised have been addressed and obviated. An early and favorable action on the merits is therefore respectfully requested.

Dated: 7/8/2010

Respectfully submitted,

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**CUSTOMER NO. 26646**

7/8/2010  
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Final  
OES/TC4

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